

B. BUNNER

RECEIVED
MAR 05 2001
1647

TECH CENTER 1600/2300

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/314,161DATE: 02/23/2001
TIME: 14:20:15Input Set : A:\314161.txt
Output Set: N:\CRF3\02232001\I314161.raw

3 <110> APPLICANT: EISENBACH-SCHWARTZ, Michal
4 COHEN, Irun
5 MOALEM, Gila
6 BESERMAN, Pierre
7 MONSONEGO, Alon
9 <120> TITLE OF INVENTION: ACTIVATED T-CELLS, NERVOUS SYSTEM-SPECIFIC ANTIGENS AND
10 THEIR USES
12 <130> FILE REFERENCE: EIS-SCHWARTZ=1A
14 <140> CURRENT APPLICATION NUMBER: 09/314,161
15 <141> CURRENT FILING DATE: 1999-05-19
17 <150> PRIOR APPLICATION NUMBER: 09/218,277
18 <151> PRIOR FILING DATE: 1998-12-22
20 <150> PRIOR APPLICATION NUMBER: PCT/US98/14715
21 <151> PRIOR FILING DATE: 1998-07-21
23 <150> PRIOR APPLICATION NUMBER: IL 124550
24 <151> PRIOR FILING DATE: 1998-05-19
26 <160> NUMBER OF SEQ ID NOS: 16
28 <170> SOFTWARE: PatentIn Ver. 2.0
30 <210> SEQ ID NO: 1
31 <211> LENGTH: 612
32 <212> TYPE: DNA
33 <213> ORGANISM: Homo sapiens
35 <400> SEQUENCE: 1
36 ccaagaagat cccacagcag cttccgaagg cctggatgtg atggcatcac agaagagacc 60
37 ctcacagcga cacygatcca agtacttgcc cacagcaagt accatggacc atgcccgcca 120
38 tggcttcctc ccaaggcaca gagacacggg catccttgac tccatcgggc gcttctttag 180
39 cgggtgacagg ggtgcgcccc agcggggctc tggcaaggac tcacacacaa gaactaccca 240
40 ctacggctcc ctgccccaga agtcgcagag gacccaagat gaaaaccag tagtccaact 300
41 cttcaagaac attgtgacac ctctacacac cctccatcc caaggaaagg ggagaggect 360
42 gtcctcagc agatttagct ggggaggaag agacagccgc tctggatctc ccatggcaag 420
43 acyctgagag cctccctgct cagccttccc gaatcctgcc ctgggttct taatataact 480
44 gccttaaacg ttttaattcta cttgcaccaa atagctagtt agagcagacc ctctcttaat 540
45 ccggtggggc tgtgaacgcg gcgggccagc ccacggcacc ctgactggct aaaactgttt 600
46 gtcccttttt at 612
48 <210> SEQ ID NO: 2
49 <211> LENGTH: 2139
50 <212> TYPE: DNA
51 <213> ORGANISM: Homo sapiens
53 <400> SEQUENCE: 2
54 gaaaacagtg cagccacctc cgagagcctg gatgtgatgg cgtcacagaa gagaccctcc 60
55 cagaggcaag gatccaaagta cctggccaca gcaagtacca tggaccatgc caggcatggc 120
56 ttcctcccaa ggcacagaga cacgggcac cttgactcca tcgggcgctt ctttggcggt 180
57 gacaggggtg cgccaaagcg gggctctgac aaggactcac accaccggc aagaactgct 240
58 cactatggct cctgcacca gaagtacac gcccggaacc aagatgaaaa ccccgtagtc 300
59 cacttcttca agaacattgt gacgectcgc acaccacccc cgtgcaggg aaaggggaga 360
60 ggactgtccc tgagcagatt tagctggggg gccgaaggcc agagaccagg atttggctac 420
61 ggaggcagag cgtccgacta taaatcggt cacaagggat tcaaggagat cgatgccag 480

ENTERED

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/314,161

DATE: 02/23/2001

TIME: 14:20:15

Input Set : A:\314161.txt

Output Set: N:\CRF3\02232001\I314161.raw

```

62 ggcacgcttt ccaaaatttt taagctggga ggaagagata gtcgctctgg atcaccatg 540
63 gctagacgct gaaaaccac ctgggtccgg aatcctgtcc tcagcttctt aatataactg 600
64 ccttaaaact ttaatccac ttgccctgt tacctaatta gagcagatga cccctccct 660
65 aatgctcgag gagttgtgca cgtagtaggg tcaggccacg gcagcctacc ggcatttcc 720
66 ggcacacagt taaatgagaa catgaaaaca gaaaacgggt aaaactgtcc cttctgtgt 780
67 gaagatcacg ttcttcccc cgcaatgtgc cccagacgc acgtgggtct tcagggggcc 840
68 aggtgcacag acgtccctcc acgttcaccc ctccacctt ggactttctt ttcccggtg 900
69 ctgggacccc ttgcttttt gctggtcact gccatggagg cacacagctg cagagacaga 960
70 gaggacgtgg gcggcagaga ggactgttga catccaagct tctttgttt tttttctt 1020
71 tctttctctc acctcctaaa gttagcttca tttttctaa caggattaga cagtaaggga 1080
72 gtggcttact acatgtggga gctttttgt atgtgacatg cgggctgggc agctgttaga 1140
73 gtccaacgtg ggcagcaca gagagggggc cactcccca ggcgtgtgct gccacacac 1200
74 cccaattagc tgaattcgcg tgtgacagag ggaggaagag gaggaacag tgggctgggc 1260
75 aatggcctca cataggaac aggtcttcc tggagatttg gtgatggaga tgtcaagcag 1320
76 gtggcctctg gacgtcacg ttgccctgca tggtygccc agagcagcct ctatgaacaa 1380
77 cctcgtttcc aaaccacag ccacagccg agagtcagg aagacttgcg cactcagagc 1440
78 agaagggtag gactcctcta gacagcctc cagcccgccc agtcgccat agacactggc 1500
79 tgtgacggg cgtgctggca gcggcagtg acagtggcca gcactaacc tccctgagaa 1560
80 gataaccggc tcattcactt cctccacaga gacgcgtgt agcgagtagg cacaggcgtg 1620
81 cactgtctcc cgaattactc accgagacac acgggctgag cagacggccc ctgtgatgga 1680
82 gacaaagagc tctctgacc atatcctct taacacccc tggcatctcc ttccgcgct 1740
83 cctcctctaa cctactgacc cacttttga ttttagcgca cctgtgattg ataggccttc 1800
84 caaagagtcc cagctgtgca tcacctccc cgaggacgga gatgaggagt agtcagcgtg 1860
85 atgccaagac gcgtctctt aatccaattc taattctgaa tgttctgtg ggccttaata 1920
86 ccatgtctat taatatatg cctcgatgat gagagagtta caaagaacaa aactccagac 1980
87 acaaacctcc aaatttttca gcagaagcac tctgcgtcgc tgagctgagg tcggctctgc 2040
88 gatccatcac tggcgcgacc cacacagcac gtgctgtgac gatggtgaa cggaaagtgt 2100
89 acactgttcc tgaattattga aataaaacaa taaactttt 2139
91 <210> SEQ ID NO: 3
92 <211> LENGTH: 581
93 <212> TYPE: DNA
94 <213> ORGANISM: Homo sapiens
96 <400> SEQUENCE: 3
97 taatatctag ggktttgact ctgaccctg ttggggctct cacttcatg cttctcacgc 60
98 ttgtgctgca tatccacac caattagacc caaggatcag ttggaagttt ccaggacatc 120
99 ttcattttat ttccacctc aatccacatt tccagatgtc tctgcagcaa agcgaaattc 180
100 caggcaagcc ttagggaaga aaggaaaaac aaagaaatg aaacaattg cagtgaagg 240
101 cagaaagaga agatggagcc cttagagaag ggaatctccc tgagtgggtg gggaaaagg 300
102 gaggagaagg ggaggaggag aggaggagga aagcaggcct gtccctttaa gggggttggc 360
103 tgtcaatcag aaagcccttt tcattgcagg ayaagaggac aaagatactc agagagaaaa 420
104 agtaaaagac cgaagaagga ggcctggagag accaggatcc ttccagctga acaagtcag 480
105 ccacaaagca gactagccag ccgctacaa ttggagtcag agtcccaaag acatgggtaa 540
106 gtttcaaaaa ctttagcatt gaagattcaa gaggacacag g 581
108 <210> SEQ ID NO: 4
109 <211> LENGTH: 1762
110 <212> TYPE: DNA
111 <213> ORGANISM: Homo sapiens
113 <400> SEQUENCE: 4
114 ctgctttcag agcctgtgac ttctgtgtg cctctctgt ttctcagca catggcatag 60

```

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/314,161

DATE: 02/23/2001
TIME: 14:20:15

Input Set : A:\314161.txt
Output Set: N:\CRF3\02232001\I314161.raw

```
115 ggectgggat accaggctctg gggatctcag ggactcttag cactttaaga cacatgtgtt 120
116 cccaggccct ggtgtgttcc tctagtgcc aagaagatgtt tcatgctttg ctgactttgt 180
117 ataaagtctg tttgtagctg ttttgacaga atctcagcgt ataactgaag gtggggacat 240
118 tagccaagct gcattatag aggacaaaac tgcatacaa agtgccaaa atcattaaag 300
119 ctgcattttt attattggga gtaatatcaa acctccatt ttccaatttt ctttctgt 360
120 cctgtgctag ctccatctg tttggactgc tctcccata tgtaaactaa gaagaatcaa 420
121 gcattctttg caacaaatc acacgatgct caaaaatgtc caggagcacc caatttccaa 480
122 agtttctctc acctggaatg ctcttcctgc taaaatctct accctctgtt accacttact 600
123 tggcctgcac toatcccttc ctggaactcc aagtgcattt accctctgtt accacttact 660
124 tggcctgcac toatcccttc ctggaactcc aagtgcattt accctctgtt accacttact 720
125 attaaagact cccatattgc agagtctgtg tcttttctct ctccatctcc cgtataacac 780
126 ccagcataat gctgggcatg tagtgagtat tccataaata gttgatgaat gactaaaata 840
127 agcaagcaaa caaacagact agaacaataa gaaagaaggg actggatttc ataactcttc 900
128 tggcttgcta tttgaattgc tgaattatta ttatttatta aatatttttt aatttctg 960
129 aataaaagg tttgaattgc tgaattatta ttatttatta aatatttttt aatttctg 1020
130 ctcttactgc ccaggctgga gtacaatggc gcaatcttgg ctcaagcaca cctccgctc 1080
131 ctcttactgc ccaggctgga gtacaatggc gcaatcttgg ctcaagcaca cctccgctc 1140
132 cggccatgct taacagattc tctgtctca gctcctgag ggtgttggc atgttggcca 1200
133 ggtgtgtctt gaactcttga cctcatgtga tccacotgct ccagcctccc aaagtgtg 1260
134 gattacagcc atgcgcaccc gtgcccggcc aaagatttat ttccaagaat gaaacaaagt 1320
135 aaggattctg ggtcaatctc acatgctgaa agccaaaacc tctagcctct cctgtctttt 1380
136 gacttcggag tgcacactat ctccagcct gtgagcacag ggcctggcag aggggtttga 1440
137 gtggcatgag ctactactg gatgtgctg actgttctcc ctctctcttc cccactgga 1500
138 ttagagtgct gtgcaagatg tctgttaggg gccccttttg ctctctctgt ggcactgga 1560
139 ttgtgtttct ttgggggtgc actgttctgt ggtgtggag atgaagcct cactggcaca 1620
140 gaaaagctaa ttgagacctt ttctccaaa aactaccaag actatgata tctcatcaat 1680
141 gtgtaagtac ctgcccctcc acacagaccc atcttttttt tccctctctc catcctggag 1740
142 atagagaact ctccagctac ttagtacta gcaggggact ggggtggagc cagaccggat 1762
143 tcccgagtct tccctctgtg ca
145 <210> SEQ ID NO: 5
146 <211> LENGTH: 828
147 <212> TYPE: DNA
148 <213> ORGANISM: Homo sapiens
150 <400> SEQUENCE: 5
151 ctagaataac ctagccttg ttaagggtgt cgtctgtgtg tatacctcac ttatgtcggg 60
152 aaagaagcca ggtcttcaat taataagatt ccctgtgtct gtttgtctac ctgttaatgc 120
153 aggatccatg ccttccagta tgtcatctat ggaactgcct ctctctctct cttttatggg 180
154 gcccctctgc tggctgaggg ctctctacac accggcgagc tcaggcagat ctttggcgac 240
155 tacaagacca ccatctgccc caaggcctg agcgcaacgg taacaggggg ccagaagggg 300
156 aggggttcca gagggcaaca tcaagctcat tctttggagc ggtgtgtgca ttgtttggga 360
157 aaatggctag gacatcccca caagggtgac atcctcagga ttttgtgcca ataacaaggg 420
158 gtgggggaaa attgggcgag agtctgtggc ctctctccca cccaaggctg ggtcctctct 480
159 aggggcctgg cttttgagt aggaagcagat ggtgcagcc cctaagcaa atttcttctc 600
160 acgtgggtgc cagctgcttt agcctcacct ttcaaaaggt cagaccattt ctaagccatc 660
161 aaaacagaaa gcattgagtt tgtgggatgc ttgtacaat cagaccattt ctaagccatc 720
162 tgttggtatc cctttgttcc ctctctagta ggtaccacaa gagtggatct aactggacaa 780
163 gagtctaaaa tgcgtctcat gtgattgaga cttgggcacc tgagctraga gggaggatgg 828
164 ataataaaaa ttaataataa actccaaggt aaatttaca ttgtctgt
166 <210> SEQ ID NO: 6
```

RAW SEQUENCE LISTING
 PATENT APPLICATION: US/09/314,161

DATE: 02/23/2001
 TIME: 14:20:15

Input Set : A:\314161.txt
 Output Set: N:\CRF3\02232001\I314161.raw

167 <211> LENGTH: 1140
 168 <212> TYPE: DNA
 169 <213> ORGANISM: Homo sapiens
 171 <400> SEQUENCE: 6
 172 gatcctcctc attcttcccc taccatttcc cccacccctc cgttatactg gggccagtta 60
 173 tctagtagat actgccaatt acccttggca gaggtgccct gctcactaat tttatttggg 120
 174 qgaqmgccct qaaacctggg tttaatgtct ggcacacgcc acttccagga tctcccagtt 180
 175 tgtgtttcta catctgcagg ctgatgtga tttctaacca acccagtga atcattttag 240
 176 tttgtggca tcacctatgc cctgaccgtt gtgtggctcc tgggttttgc ctgctctgct 300
 177 gtgctgtgt acatttactt caacacctgg accacctgcc agtctattgc cttccccagc 360
 178 aagacctctg coagtatagg cagtctctgt gctgatgcca gaattgatgg tgaattaggg 420
 179 tacgggtgct ttggctctcc taccactat ggaagcacta tatatttggg tattttctta 480
 180 gtgtaaggag ggtggtgatt atgagaaaa tataaagtga tgaattgatt ggtcttagtt 540
 181 tattaactct tccctactga aaccagagag gtttcttccc ccggaaggga acttgggaag 600
 182 ggtgggaagt ttcttggcca ttacacttgg cctactctag ttgactgcty ttcaaacccc 660
 183 caaagcagca catttcaata acaaacacaa ggtttsacca ctgttcaata ccaccttctc 720
 184 ttttttgtaa acctgtagaa aagaggatcc taattgttgg tagmatccaa mtttacagcc 780
 185 aggataatta gagatggaag aagggtctct ggggaaagtc tccatgtggc cccgtaactc 840
 186 cataaagctt accctgcttg ctttttgtgt ctacttagg tgttctccca tgggaatgctt 900
 187 tccttgccaa ggtttgtggc tccaaccttc tgtccatcty caaacacagt gaggtagtgy 960
 188 ggttatttgg gttattttac aaggagtag ctaataccat acaaatata cccatggcct 1020
 189 tcaattttta ggactgaaag tttccctttg ctggattttg aattagccga ttgcttctta 1080
 190 caacatgttg gctaagtgtg cctgagccaa tgagcataga aggtaaaaca cctcttttct 1140

192 <210> SEQ ID NO: 7
 193 <211> LENGTH: 295
 194 <212> TYPE: DNA
 195 <213> ORGANISM: Homo sapiens
 197 <220> FEATURE:
 198 <221> NAME/KEY: misc_feature
 199 <222> LOCATION: (42)..(43)
 200 <223> OTHER INFORMATION: N at positions 42 and 43 is unknown
 202 <400> SEQUENCE: 7

W--> 203 aattagcaca cagaaggat atccaacaca tacaagctg tnnctatgga ctacactgga 60
 204 gcataattact gctgttgcaa gaaacatttc ttcttctctt ttctatttcc ctgcagttcc 120
 205 aaatgacctt ccacctgttt attgctgeat ttgtgggggc tgcagctaca ctggtttccc 180
 206 tggtagtttg actttgaatg atcttggcaa gtaaataggc ctgagatagt tgtgggtaca 240
 207 gctattctga aaggcaagaa ggtagactgc ttccatcctt gaaatgctgg agggg 295
 209 <210> SEQ ID NO: 8
 210 <211> LENGTH: 2940
 211 <212> TYPE: DNA
 212 <213> ORGANISM: Homo sapiens
 214 <400> SEQUENCE: 8
 215 aattctatat actatcacta tggctccact ttggatactc tccagtggat ttagttactc 60
 216 atatggaaat acctgggagg acctcctaac attattagaa ttgttatgat tataatacaa 120
 217 ygctatgtcc caggctcttg tgatagtgt acagtgcctt gtgaatgtag tgtgctcatt 180
 218 gtgcagatta aaaacctaa gcactgaagg gtgaagtgat ttatctgaag ttattttata 240
 219 aagcagtgat cagacaacct gagctcacag aactccctgg cccctactgc tgaggtttcc 300
 220 atacagagtc aagtaatttc tcacottgta aaacgaattg attcaattaac caggggagag 360
 221 ctctactgca tgatgtggct gtgtgtctac agcaagcacc ctatgactct aagtcactcg 420

RAW SEQUENCE LISTING

DATE: 02/23/2001

PATENT APPLICATION: US/09/314,161

TIME: 14:20:15

Input Set : A:\314161.txt

Output Set: N:\CRF3\02232001\I314161.raw

```

222 gacatattga tgtggcaaa cccuaatatt gttcacttcc ctgaggaaaa ctcaagtcta 480
223 gatcaaacag aggtgtggaa taaatcttta tgatttgatt ctctggccct gggccatgag 540
224 acccatgatg cctcagagac atcggacttc cagtcaagtg tatatggaga aagccaaagc 600
225 tgggatgtac tgcctttttc agagcatggg tttttccctt atttagttat gattttattt 660
226 ctacccttcc tcattcccaa agggatttga gtagggagtg ctttcttttc tactctcatt 720
227 cacattctct cttctgttcc ctacagctca ccttcattga tgctgccact tacaactttg 780
228 ccgtccctaa actcatgggc cgaagccacca agttctgata ccccgtagaa atcccccttt 840
229 ctctaatagc gaggctctaa ccacacagcc tacaatgtcg cgtctcccat cttaaactctt 900
230 tgcttttggc acaactgggc cctcttctta cttgatgagt gtaacaagaa aggagagttc 960
231 tgcagtgatt aaggctcttc tttggactct cccctcttat gtacctcttt tagtcatttt 1020
232 gcttcacatg tggttctctc tagaaatggg aaatgcctaa taatatgact tcccaactgc 1080
233 aagtcacaaa ggaatggagg ctctaattga attttcaagc atctcctgag gatcagaaaq 1140
234 taattttctc tcaaaaggta cttccactga tggaaacaaa gtggaaggaa agatgtctag 1200
235 gtacagagaa ggaatgtctt tggctctctt gccatctata ggggccaaat atattctctt 1260
236 tgggtgtaca aatgggaattc attctgcgtc tctctattac actgaagata gaagaaaaaa 1320
237 gaatgtcaga aaaaacaata gagcgtttgc ccaaatctgc ctattgcagc tgggagaaaq 1380
238 ggggtcaagc aaggatcttt caccacaga aagagagcac tgaccccgat ggcgatggac 1440
239 tactgaagcc ctactcagc caaccttact tacagcataa gggagcgtag aatctgtgta 1500
240 gacgaagggg gcatctggcc ttacacctcg ttagggaaga gaaacagggt cttgtcagca 1560
241 tcttctcact ccttctctct tgataacagc taccatgaca accctgttgt ttcacaaggq 1620
242 ctgagaatag aaggaaacta gcttacctga gaacagactg gctgaggag cagcagttgc 1680
243 tgggtgctaa tgggtgtaacc tgagatggcc ctctggtaga cacaggatag ataactcttt 1740
244 ggatagcatg tcttttttct tgttaattag ttgtgtactc tggcctctgt catattctta 1800
245 caatgggtct catttctctg ggtattatcc attcagtcac cgtaggtgat ttgaaggctc 1860
246 tgatttggtt tagaatgatg cacatttcat gtattccagt ttgtttatta cttatttggg 1920
247 gttgcacatg aaatgtctgg agaataattc ttgtattatg actgtttttt aaactaggaa 1980
248 aattggacat taagcatcac aaatgatatt aaaaattggc tagttgaate tattgggatt 2040
249 ttctacaagt attctgcctt tgcagaaaca gatttgggtg atttgaatct caatttgagt 2100
250 aatctgatcg tctttcttag ctaatggaaa atgattttac ttagcaatgt tatcttgggt 2160
251 tgttaagagt taggtttaac ataaaggcta ttttctctcg atatagatca cataacagaa 2220
252 tgcaccagtc atcagctatt cagtttgtaa gcttccagtc atcagctatt cagtttgtaa 2280
253 gcttcccagg aaaaaggaca ggcagaaaga gtttgagacc tgaatagctc ccagatttca 2340
254 gtcttttaat gtttttgcta actttgggtt aaaaaaaaaa aaagtctgat tggttttaat 2400
255 tgaaggaaaag atttgtacta cagttctttt gttgtaaaaga gttgtgttgt tcttttcccc 2460
256 caaagtgggt tcagcaatat ttaaggagat gtaagagctt taaaaaaga cacttgatac 2520
257 ttgttttcaa accagtatac aagataagct tccaggctgc atagaaggag gagagggaaa 2580
258 atgttttgtg agaaaccaat caagataaag gacagtgaag taatccgtac cttgtgtttt 2640
259 gtttttgatt aataacataa caaataacca acccttccct gaaaacctca catgcataca 2700
260 tacacatata tacacacaca aagagagtta atcaactgaa agtgttctct catttctgat 2760
261 atagaattgc aattttaaca cacataaagg ataaactttt agaaacttat cttacaaagt 2820
262 gtattttata aaattaaaga aataaaaatt aagaatgttc tcaatcaaac atcgtgtcct 2880
263 ttgagtgaaat tgttctatct gacttcacaa tagaaactta ataatcgtag cttctcaaga 2940
265 <210> SEQ ID NO: 9
266 <211> LENGTH: 17538
267 <212> TYPE: DNA
268 <213> ORGANISM: Homo sapiens
270 <400> SEQUENCE: 9
271 atggaaatgt tctgtatttg tgtgtctga tgagataacc actaactgta gtgtattga 60
272 gcatttggaa catggctagt gtaatcaatg aaccaaaatt ttaattttat ttaattgtaa 120

```

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/314,161

DATE: 02/23/2001

TIME: 14:20:16

Input Set : A:\314161.txt

Output Set: N:\CRF3\02232001\I314161.raw

L:203 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7